

# Focal cemento-osseous dysplasia of mandibular jaw: A case report and literature review

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## ABSTRACT

**Introduction:** Focal cemento-osseous dysplasia is a rare disease entity characterized by replacement of healthy bone and tissue with cemento-osseous tissue. Etiology and pathogenesis for the lesion is unknown and these lesions are considered as reactive lesion in the periapical areas of the teeth. **Case Report:** A 52-year-old female reported to Yogita Dental College and Hospital with the chief complaint of throbbing intermittent pain and swelling in the lower left posterior region of the jaw since six months. **Conclusion:** The lesions are benign in nature and rarely cause complication. Most of the time lesion is detected accidentally on the routine radiographs. Treatment involves long-term follow-up of the case unless until lesion becomes symptomatic.

**Keywords:** Alveolar bone, Benign lesion, Cementum, Focal cemento-osseous dysplasia

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## INTRODUCTION

Cemento-osseous dysplasias are group of disorders known to originate from periodontal ligament tissues. They are rare entities which are characterized by replacement of healthy bone and tissue with cemento-osseous tissue [1]. These lesions are benign and related to tooth bearing areas of the jaw bone. They are usually classified, into three groups [2]:

1. Periapical (surrounds the periapical region of teeth and are usually bilateral)
2. Florid (sclerotic symmetrical masses)
3. Focal (single lesion)

The term cemento-osseous dysplasia was adopted for the WHO classification in 1992. It is difficult to discriminate cementum from bone tissue in lesions which produce cementum, bone and connective tissue, which is why lesion has been named cemento-osseous dysplasia. Focal cemento-osseous dysplasia (FCOD) is accepted as most frequently seen fibro-osseous pathology [3]. The FCOD is predominantly seen in African-American females and less in African-American males, with a peak incidence in the fourth and fifth decades of life [4, 5]. The FCOD can cause localized expansion of the alveolar bone

and can be secondarily infected with localized abscess formation [6].

The etiology and pathogenesis for FCOD is unknown, and this lesion is considered as a reactive lesion in the periapical areas of the teeth. Often it affects one or two mandibular anterior tooth. Involvement of mandibular posterior teeth is also reported [3]. When it involves single tooth, in the initial stages, clinician may get confused with periapical granuloma or cyst. The FCOD is often a well defined radiolucency with a sclerotic border or a mixed radiolucent and radiopaque lesion.

We can arrive at a provisional diagnosis of cemento-osseous dysplasia in cases when there is absence of pain or swelling and the presence of a vital pulp in the affected portion of the jaw, coupled with the typical clinical and radiographic findings for this condition. When a diagnosis of FCOD is established, periodic recall is recommended. The lesion may persist for indefinite period of time without causing any symptoms. No surgical intervention is required for the asymptomatic patient. For symptomatic cases or when the lesion is secondarily infected, surgical intervention is recommended [7].

## CASE REPORT

A 52-year-old female reported to Yogita Dental College and Hospital with the chief complaint of throbbing intermittent pain and swelling in the lower left posterior region of the jaw since six months. Pain got aggravated after food lodgment and relieved after removal of stimulus by tooth pick or by taking NSAID. The patient was questioned for relevant systemic diseases, history of smoking and past dental history. Intraoral examination revealed hard non-tender swelling in the lower left posterior region of the jaw with obliteration of the buccal vestibule (Figure 1). Periodontal examination revealed deep periodontal pocket with 36 and 37 (Figure 2). Surprisingly, the affected teeth in spite of severe attachment loss did not show significant mobility. Vitality test of the affected teeth revealed positive response.

The IOPA of lower left posterior region revealed a well defined mixed radiolucent radiopaque lesion centered over the periapical region of 37 and also involving the apices of both the roots of 36 (Figure 3). The borders of the lesion were sclerotic and the lesion had a roughly oval shape. The internal structure appeared as an amorphous, well defined radiopaque mass surrounded by a well defined radiolucent periphery. A second similar but smaller lesion was seen attached to the mesial root of 36. Both the lesions were separated from each other by bony trabeculae which appeared to be normal in density.

On the basis of clinical findings and radiographic examination, a provisional diagnosis of FOCOD was given. Histopathological evaluation was done for confirmation of the clinical and radiologic findings. A small section of diseased tissue was obtained through incisional biopsy for histopathological evaluation. Involved teeth were

not extracted as per the request of the patient. The hematoxylin and eosin stained and studied section of the lesional tissue showed presence of dense lamellar bone with presence of typical resting lines. The bony trabeculae did not show presence of any osteoblastic rimming (Figure 4).



Figure 1: Intraoral swelling in of the jaw with obliteration of the buccal vestibule.



Figure 2: Periodontal examination revealed deep periodontal pocket with 36 and 37.



Figure 3: Well defined mixed radiolucent radiopaque lesion centered over the periapical region of 36 and 37.

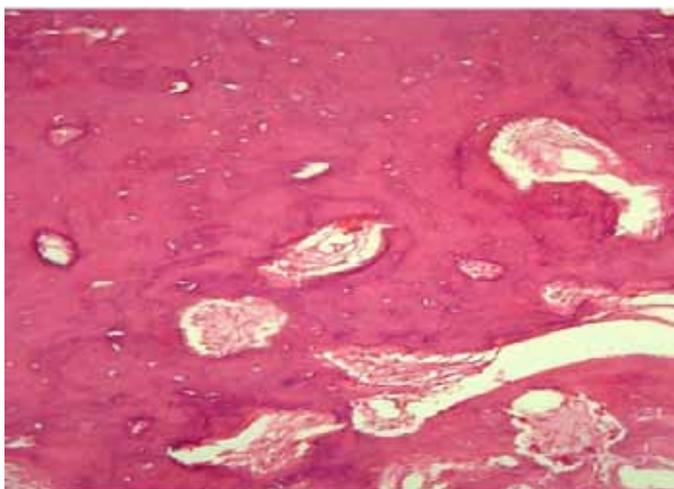


Figure 4: Hematoxylin and Eosin stained and section of the lesional tissue (H&E stain, x100)

## DISCUSSION

Cemento-osseous lesions are a result of disturbance in the bone metabolism which results in replacement of normal bone with the connective tissue matrix that then gradually develops in to cemento-osseous lesion in the later stage of the disease.

Waldron reported the first case of FCOD as 'localized fibro-osseous cemental lesion [3]. Later, Summerlin and Tomich renamed it as focal cemento-osseous dysplasia [8]. The FCOD clinically and histopathologically mimics ossifying fibroma and imposes a difficulty in diagnosis. Ossifying fibromas are well-demarcated and show radiolucent feature with small radio-opaque calcifications. It is easy to excise because of well demarcated radiolucent border. However, FCOD is usually radio-opaque and cannot be readily excised from healthy bone [6].

The FCOD is usually seen in asymptomatic patients in the periapical area of teeth with vital pulp. A few cases have been reported with localized jaw expansion and mild discomfort. The age of occurrence is in fourth or fifth decade of life with higher predilection in females [9]. The patient in the present case was also a female in her fifth decade of life. The patient was complaining of throbbing pain, mild discomfort and expansion of jaw in the 36 region.

Most of the cases of FCOD are reported accidentally while shooting routine radiographs. Seventy percent of the FCOD cases are associated with root apex of the teeth. The remaining 21% is found in the previous extraction site. In presented case radiograph was taken to find out the cause of food impaction and discomfort to the patient and accidentally the lesion was found in the periapical area.

The FCOD has three developmental stages with specific radiographic features;

- (1) Osteolytic stage: This stage shows radiolucency, loss of lamina dura and periodontal ligament space on radiograph.
- (2) Cementoblastic stage: In this stage radiograph shows small opacities within the radiolucency. This is because of the deposition of cementum in the fibrous connective tissue.
- (3) Osteosclerotic stage: This is also called as "inactive phase". In this stage most of the areas of the lesion is covered by the radio-opacities [10].

## CONCLUSION

There are wide varieties of periapical pathosis present and they resemble each other in many aspects. It is important to know specific clinical, radiographic and histological feature of particular lesion so as to avoid confusion in final diagnosis. The FCOD is rarely diagnosed according to the literature. Thus, due to the importance of FCOD, the lesion must be included during the evaluation of intra-osseous lesions. If the case is asymptomatic treatment is not required, whereas in symptomatic cases surgical excision is advised.

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## Author Contributions

Shahabe Saquib Abullais – Group1 - Substantial contributions to conception and design, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

N. Priyanka – Acquisition of data, Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Nitin Kudyar – Acquisition of data, Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

G. Kapil – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Prashanth Shetty – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

## Guarantor

The corresponding author is the guarantor of submission.

## Conflict of Interest

Authors declare no conflict of interest.

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## REFERENCES

1. MacDonald-Jankowski DS. Fibro-osseous lesions of the face and jaws. *Clin Radiol* 2004 Jan;59(1):11–25.
2. Mupparapu M, Singer SR, Milles M, Rinaggio J. Simultaneous presentation of focal cemento-osseous dysplasia and simple bone cyst of the mandible masquerading as a multilocular radiolucency. *Dentomaxillofac Radiol* 2005 Jan;34(1):39–43.
3. Waldron CA. Fibro-osseous lesions of the jaws. *J Oral Maxillofac Surg* 1993 Aug;51(8):828–35.
4. Waldron CA, Giansanti JS. Benign fibro-osseous lesions of the jaws: a clinical-radiologic-histologic review of sixty-five cases. II. Benign fibro-osseous lesions of periodontal ligament origin. *Oral Surg Oral Med Oral Pathol* 1973 Mar;35(3):340–50.
5. Neville BW, Albenesius RJ. The prevalence of benign fibro-osseous lesions of periodontal ligament origin in black women: a radiographic survey. *Oral Surg Oral Med Oral Pathol* 1986 Sep;62(3):340–4.
6. Su L, Weathers DR, Waldron CA. Distinguishing features of focal cemento-osseous dysplasias and cemento-ossifying fibromas: I. A pathologic spectrum of 316 cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1997 Sep;84(3):301–9.
7. Drazic R, Minic AJ. Focal cemento-osseous dysplasia in the maxilla mimicking periapical granuloma. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1999 Jul;88(1):87–9.
8. Summerlin DJ, Tomich CE. Focal Cemento-osseous dysplasia: A clinopathologic study of 221 cases. *Oral Surg Oral Med Oral Pathol* 1994;78:611–20.
9. Macdonald-Jankowski DS. Focal cemento-osseous dysplasia: a systematic review. *Dentomaxillofac Radiol* 2008 Sep;37(6):350–60.
10. Galgano C, Samson J, Küffer R, Lombardi T. Focal cemento-osseous dysplasia involving a mandibular lateral incisor. *Int Endod J* 2003 Dec;36(12):907–11.

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